

## ABSTRACT OF THE DISCLOSURE

Method and apparatus for sending and receiving pulses in the ultra wide band communication system while avoiding spectrum problems. Carrier waves, for example, are generated with a frequency set in the center of the transmission band of 7.5 GHz to avoid the 5 GHz currently used by wireless LAN systems and frequencies below 3 GHz specified for spectrum mask by the FCC. Baseband pulses are then generated at time intervals equal to a fraction  $1/n$  of this frequency ( $n$  is an integer). The baseband pulses are rectangular waves with a length that is an integer multiple of one period of the carrier wave on the specified frequency. Finally 3-cycle pulses are made by frequency-modulating the baseband pulses with the carrier waves.